

Application Serial No: 10/041,517
Attorney Docket No.: 51934 (ACT-141)

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1-24 (Canceled)

25. (New) A fiber array device for retaining one or more optical fibers, comprising:

a chip comprising a main surface, a front face, a back face, and at least one groove in the main surface for holding an optical fiber, the groove extending from the front face toward the back face; and

a molded mount formed of a polymer for holding the chip, the mount comprising a channel for receiving the chip;

wherein the chip is rigidly secured within the channel and is adhesively secured to the mount, and the channel is configured such that the front face and the main surface of the chip are exposed, and wherein the channel is longer than the chip, thereby providing a recessed area behind the chip.

26. (New) The fiber array device of claim 25, wherein the mount is molded to the chip.

27. (New) The fiber array device of claim 25, wherein the main surface of the chip lies in the same plane as a surface of the mount in which the channel is formed.

28. (New) The fiber array device of claim 25, wherein the polymer is noncrystalline.

29. (New) The fiber array device of claim 25, wherein the chip is formed of single crystal silicon.

30. (New) The fiber array device of claim 25, wherein the front face of the chip extends beyond a front face of the mount a length of up to 100 micrometers.

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31. (New) The fiber array device of claim 25, further comprising a strain relief extending from a back portion of the mount.
32. (New) A fiber array device for retaining one or more optical fibers, comprising:
a chip comprising a main surface, a front face, a back face, and at least one groove in the main surface for holding an optical fiber, the groove extending from the front face toward the back face; and
a molded mount formed of a polymer for holding the chip, the mount comprising a channel for receiving the chip;
wherein the chip is rigidly secured within the channel, and the channel is configured such that the front face and the main surface of the chip are exposed, and wherein the channel is longer than the chip, thereby providing a recessed area behind the chip, and wherein the chip and the mount are configured for providing a press fit and frictional securement therebetween.
33. (New) A fiber array device for retaining one or more optical fibers, comprising:
a chip comprising a main surface, a front face, a back face, and at least one groove in the main surface for holding an optical fiber, the groove extending from the front face toward the back face; and
a molded mount formed of a polymer for holding the chip, the mount comprising a channel for receiving the chip;
wherein the chip is rigidly secured within the channel, and the channel is configured such that the front face and the main surface of the chip are exposed, and
wherein the chip has a re-entrant shape and the channel is configured to conform to the re-entrant shape for snugly receiving and locking the chip into the channel.
34. (New) The fiber array device of claim 33, wherein interior opposing corner portions of the chip and of the mount are configured to provide the re-entrant shape.
35. (New) A fiber array device for retaining one or more optical fibers, comprising:

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a chip comprising a main surface, a front face, a back face, at least one groove in the main surface for holding an optical fiber, the groove extending from the front face toward the back face, and in a surface opposite the main surface, a slot transverse to the at least one groove; and

a molded mount formed of a polymer for holding the chip, the mount comprising a channel for receiving the chip and a transverse stepped portion in the channel for mating with the transverse slot of the chip;

wherein the chip is rigidly secured within the channel, and the channel is configured such that the front face and the main surface of the chip are exposed,

36. (New) A fiber array device for retaining one or more optical fibers, comprising:

a chip comprising a main surface, a front face, a back face, and at least one groove in the main surface for holding an optical fiber, the groove extending from the front face toward the back face; and

a molded mount formed of a polymer for holding the chip, the mount comprising a channel for receiving the chip, and a plurality of grooves in a front face of the mount at opposite ends thereof, wherein the grooves run perpendicular to the main surface of the chip and are effective to control wicking of adhesive;

wherein the chip is rigidly secured within the channel, and the channel is configured such that the front face and the main surface of the chip are exposed.

37. (New) A fiber array device for retaining one or more optical fibers, comprising:

a chip comprising a main surface, a front face, a back face, and at least one groove in the main surface for holding an optical fiber, the groove extending from the front face toward the back face; and

a molded mount formed of a polymer for holding the chip, the mount comprising a channel for receiving the chip and an open notch formed from the channel through a side portion thereof, for receiving strengthening fibers of an associated optical fiber cable;

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wherein the chip is rigidly secured within the channel, and the channel is configured such that the front face and the main surface of the chip are exposed.

38. (New) The fiber array device of claim 37, further comprising an optical fiber cable comprising strengthening fibers which are disposed in the open notch.

39. (New) A fiber array for retaining one or more optical fibers, comprising:

first and second chips each comprising a main surface, a front face, a back face, and at least one groove in the main surface for holding an optical fiber, the groove extending from the front face toward the back face; and

first and second molded mounts formed of a polymer for holding a first and second chip, respectively, the mounts each comprising a channel for receiving the respective chip, wherein the channel is longer than the respective chip, thereby providing a recessed area behind the respective chip;

wherein the first and second chips are rigidly secured within the respective channel of the first and second mounts, and the channels are configured such that the front face and the main surface of the first and second chips are exposed; and

wherein the main surface and the at least one groove of the first chip faces the main surface and the at least one groove of the second chip.

40. (New) The fiber array of claim 39, further comprising adhesive for rigidly securing together the first and second mounts.

41. (New) The fiber array of claim 39, further comprising means for locking the first and second mounts together to cause a compressive force to be applied by the one or more groove in the first and second chips against one or more optical fibers retained therebetween.

42. (New) The fiber array of claim 41, wherein the means for locking comprises:

a locking pawl and a keeway associated with each of the first and second mount;

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wherein the locking pawls of the first and second mount are configured to interlock with the keeways of the second and first mount, respectively, for retaining the first and second mounts securely together.

43. (New) The fiber array of claim 41, wherein the means for locking comprises:
first and second locking pawls associated with the first mount; and
first and second L-shaped notches in side portions of the second mount;
wherein the first and second locking pawls are configured to lock into the first and second L-shaped notches, respectively, for retaining the first and second mounts securely together.

44. (New) The fiber array device of claim 41, wherein the means for locking comprises an ultrasonically welded joint.